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Subject FL Phosphate Initiative - Enforcement Strategy

Phosphate Enforcement Team:

A briefing is scheduled for Mr. Palmer for Jan. 4, 2:30pm, to respond to questions raised at his August 5, meeting with the Admin. and FL Gov. and to seek approval for proceeding with an aerial radiation survey of the CERCLIS site area.

One of the questions from the Administrator's meeting regarded the identification and participation of PRP's. At this briefing, I would like to be able to provide Mr. Palmer with an initial assessment of the PRP's (i.e., who they are and financial viability) that may be involved in the CERCLIS sites. I would also like to be able to provide him with an outline of an enforcement strategy. One of the main questions that needs to be addressed is when and to what extent do we plan to involve the PRPs. Over the years there has been significant discussion about when and how to involve the PRPs, but no decisions. If possible, I would like to present Mr. Palmer with a proposal regarding the involvement of the PRPs.

To facilitate the preparation of a proposal, I would like to try and meet with the phosphate enforcement team this week. Would everyone be available for a meeting tomorrow or Thurs at 10am? That would give us early next week to prepare a draft outline, before everyone is out for Christmas and New Years. A pre-briefing for Beverly would held on Jan. 3.

Let me know your preference. Attached for your reference is a copy of the draft briefing paper I prepared for Beverly.

Thanks, Brad


brief31.wpd

BRIEFING
FL PHOSPHATE INITIATIVE
EPA ADMINISTRATOR, RA, AND FL GOVERNOR ACTION ITEMS AND STATUS REPORT
November 2005

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Objective: Brief RA on responses to action items from Administrator, RA, and FL Governor meeting in August 2005 and current project status.

❑ BACKGROUND

- During 2005 numerous meetings were held to try and address technical, regulatory and financial considerations.
- Briefings for the Acting Deputy Administrator for OSWER in March; FDEP Secretary in June; and the EPA Administrator in July led to a follow-up meeting among the EPA Administrator, EPA Regional Administrator, and FL Governor in August.
- The August 5, 2005, briefing addressed project background; potential threats; Evaluation/Response Criteria; and Issues (briefing attached)
- Six action-items developed from the meeting.

❑ ACTION ITEMS/RESPONSES

- Evaluate whether background radiation levels should be higher.

  An example of a higher background level mentioned at the meeting was radiation from natural sources such as granite. It was assume that the question of a higher background arose from the question of how naturally occurring radiation is addressed. On average, it is estimated that a person is exposed to approximately 360 mRem of radiation annually. Since elevated levels in the areas of interest are generally expected to be less than this annual dose, the question arises of why would doses less than the annual average a person receives from background levels be of concern.

  EPA addresses radiation exposures the same way it does chemical carcinogens (OSWER Dir. No 9200.4-18). As with chemicals, EPA's goal is to address the incremental increase in cancer risk above naturally occurring background levels. The 360 mRem/yr dose is due to natural and man-made sources that the public generally has limited ability to control. As with chemical carcinogens, a more appropriate comparison benchmark would be a comparison to localized background levels of individual radioneuclides (e.g., Ra 226...1 pCi/g for central Florida). The current Applicable and Relevant and Appropriate Requirement (ARAR) for Ra^{226} is 5 pCi/g above background.

- Consult w/ ATSDR on appropriateness of EPA criteria.

  There have been multiple consultations with ATSDR over the years. There are no criteria that have been used by EPA that correspond directly with those

recommended by ATSDR. This is due largely to the different roles of EPA and ATSDR with regard to assessing potential health risks from radiation exposures associated with the phosphate mining industry. EPA's mission, in part, is to address potential risks to human health that could occur from incremental doses of radiation over a long period of time. Conversely, ATSDR's focus is more related to addressing radiation exposures that result in observable health effects. These differing approaches result in recommended dose limits of 15 mRem/yr by EPA vs. 100 mRem/yr by ATSDR.

One area of closer agreement between EPA and ATSDR regarding an acceptable cleanup level is for an acceptable level of Ra^{226} in the soil. An ARAR used historically by EPA for Ra^{226} is 5 pCi/g above background. This generally corresponds to a residential risk level of 10^{-4}.

- Evaluate ORIA and NRC criteria used at Yucca Mtn.

In August 2005, EPA formally introduced radiation standards for the Yucca Mountain radioactive waste disposal facility. The annual dose standard of 15 mRem for the first 10,000 years and 350 mRem, thereafter. Some questions arose as to whether or not these standards may be useful in developing criteria for the Florida Phosphate areas.

In general, the 15 mRem/yr standard corresponds to a 10^{-4}, excess cancer risk for radiation. Similarly, the 5 pCi/g, above background, for radium in the soil, corresponds to a excess cancer risk of approximately 10^{-4}. Although different criteria (i.e., dose vs. concentration), they essentially achieve the same level of protection. The establishment of dose based criteria for the Yucca Mountain facility would not seem to have any bearing on the criteria for the Florida Phosphate area.

- Evaluate basis for Regional cost-estimate.

Questions were raised during the meeting regarding the basis for the $500,000 per residence cost estimate and whether or not these cost could be reduced.

The initial cost-estimate was based on the assumption that radium contaminated soil that is excavated would be required, either through State or Federal regulations, to be disposed of off-site. However, upon a detail review of the State and Federal regulations for Technically Enhanced, Naturally Occurring, Radioactive Material (TENORM) waste disposal, there are no such requirements. State regulations, which provide the most direction in TENORM disposal, would allow the wastes to be disposed of either in a local Subtitle "D" disposal facility or at gypsum stacks currently operated by the mining industry.

Due to possible local concerns regarding the disposal of the TENORM wastes at Subtitle "D" facilities, and the possible benefits of the wastes being managed at a facility that will be undergoing closure and long-term management in the future, it would seem that disposal of the waste at gypsum stacks would be the most feasible. In addition, it is estimated that disposal of the material at gypsum stacks would be the most economical. It is estimated that disposal of the material at a gypsum stack would reduce the cost per residence cleanup by as

much as 75%. Disposal at a Subtitle "D" facility is estimated to reduce the cost per residence estimated by 50%.

A legal analysis of the disposal requirements for TENORM and a cost comparison is attached.

- Development of Regional desk-statement.

An action item from the August 5, 2005, meeting was the development of a Regional Desk Statement. A draft statement that focuses only on the CERCLIS sites is attached.

- Information on PRPs.

A final action item was the availability of information on Potentially Responsible Parties. The collection of PRP information has been ongoing for the last two years. Below is a summary of the information collect thus far.

A file review was initially conducted to collect ownership information regarding the 21 CERCLA sites in central Florida. This initial review identified 15 viable current and/or previous owners of the mining facilities including the following: Borden Chemical Company; Cargill, Inc.; CF Industries; Coronet Industries, Inc.; Cytec Industries; Estech, Inc.; Exxon Mobile Corporation; Farmland Industries; Freeport-McMoran Copper & Gold, Inc.; IMC Global, Inc.; Mosaic Phosphates Company; U. S. Agri-Chemicals Corporation; U. S. Steel Corporation; W. R. Grace & Co.; and The Williams Companies, Inc. Four additional corporate entities, which have uncertain viability, were also identified during the file review. These corporations include the following: Florida Crushed Stone Company; Hopewell Corporation; Seminole Fertilizer Corporation; and T/A Minerals Corporation.

Title searches of residential properties were conducted in Bartow, Florida at the Polk County Clerk of Courts Office for the Florida Phosphate Mine Initiative. Prior to traveling to the courthouse, six geographic areas within non-mandatory areas in Polk County were selected with the aid of EPA GIS personnel. These non-mandatory areas are mines that had completed operations prior to June 1975. Once in Florida, the Polk County Property Appraisers mapping system was utilized to select subdivisions within the six areas. Two lots were selected in each subdivision to conduct searches back to the mining companies. On the trips, title searches for 17 parcels were completed with an additional four parcels in various stages of completion. The following six mining companies were identified with the completed properties: Armour Agricultural Chemical Company; International Minerals & Chemicals Corporation; Mobil Oil Corporation; USS Agri-Chemicals, Inc.; Virginia-Carolina Chemical Corporation; and W. R. Grace & Company.;

Title searches have also begun on the 21 CERCLA sites. During this trip to Polk County, a title was completed for the South Pierce Works Mine. Corporate entities identified for this mine through the title search include the following: Agrico Chemical Company; American Agricultural Chemical Company; Continental Oil Company; Freeport-McMoran Resource Partners; IMC-Agrico

Company; Industrial Enterprises Inc.; Mosaic Fertilizer, LLC; and Texas Gulf Sulphur Company. In addition, title researches were begun on seven other mines. These activities included determining the location and size of each mine, collecting various maps, and identifying property ownership records.

❑ RECOMMENDED NEXT STEPS

- Develop revised strategy for Radiological "Pilot Study" of 21 CERCLIS sites.
- Develop revised communication strategy based on Pilot Study assessment.
- Continue with development of PRP database.
- Develop draft enforcement strategy.